2: Schaden--47 E-4,5 (1946-1954) 1962 SM4 Guarani SM4

Chapter IV

Principal Subsistence Activities and Economic Organization

241 433 178 224 [226] Although the Guaraní is incapable of conceiving human life without the joys of hunting and fishing, the basis of his subsistence is furnished him by tillage. Perhaps because of the influence of environmental conditions and, in part, cultural tradition, some groups of Mbüá, who have large and rich areas of virgin forest at their disposal, such as those of Xapecó, in whose economy hunting, done principally with nooses and traps /Port. mundéu/, greatly prevails over the tasks of the clearings, are still exceptions to this rule. As far as the others are concerned, however, particularly in the present situation, in which the hunting territories of the different villages are being reduced year by year by the progressive invasion of the white man, the importance of the plantings grows more and more, to the detriment of the supplementary activities(1).

[177] [182]

1. /In the original source the notes for Ch. IV appear on pp. 64-65./ But in some villages the ecological situation between the Indians and the civilized ones is becoming such that the former not only cannot support themselves by the activities of hunting, but also do not possess enough land to build their modest little clearings. Take the case of the village of Panambi, where, in spite of the protests of the Serviço de Proteção aos Índios and mine, the Ministério de Agricultura, a few years ago, had the lands of the Kayová divided up to be distributed to colonists sent to the region. On the other side of the border the Guaraní have the misfortune to find themselves in the territory considered very good for the expansion of coffee cultivation. Under the title of "Compra de terras para o cultivo de café no Paraguai /Purchase of lands for the cultivation of coffee in Paraguay/,"

241 433 177 182 648

/54 cont./

224 [192] When a herd of wild pigs (tadjasú) appears in the vicinity of the village, a collective hunt is organized, in which some four to six persons participate. The distribution of the animals killed, made by whomever killed them, benefits all the great-families of the community. All is divided into equal portions, including that for the hunter, and there are no special parts intended for this one or that one.

• 226 Similar to what happens in connection with many other aspects of Guaraní culture, the importance of fishing in the assemblage of economic activities varies, as is natural, according to the possibilities and conditions of the environment. Scattered [361] over an immense area, the villages are sometimes found near watercourses rich in fish, sometimes in /55/ regions that offer fish in small quantities, which obviously conditions on a broad scale the interest given to this source of food.

226 184 [192] It is true that there are also differences of an undeniably cultural character. While the Nandéva of Bananal, for example, limit themselves to catching, with the aid of the weel and rarely with the hook, some river fish -- taray (traíra), bagre, cará -- and while among the Kayová fishing is practically nonexistent, the Mbüá, wherever they are settled, will try to take advantage, as best they can, of the fish available in the watercourses.

226 There are various methods of fishing in vogue among the Mbüá. In the village of Rio Branco, for instance, I noted the existence of weels of taquara cane or of timbópé (used only by the men), of metal hooks (used by preference by the women), of parí with timbo, and of fishtraps. As for the metal hooks, they claim to have been using them since time immemorial; when they do not have the purchased ones, they make them out of wire, or, when for lambaris, out of sewing needles; lacking purchased lines, they use tucuma fiber. To fish with timbo they build a parí in the river, cut timbo, put it on a stone and grind it with another one, throwing it in quantity into the water. No timbo is used in the [192] fishtrap; a "chiqueiro" /pen/ is made in the river, with a wooden board that falls ("disarms") when the traíra or other fish moves the

/55 cont./

• 226 bait. Some individuals still fish with the aid of bow and arrow. As for the harpoon and the fishing net, they say that they never used them. The fish are not strung on a cord, but collected in a basket or, lacking that, strung on a little stick provided with a crook. Now and then collective fishing expeditions are organized. [462] If they are far from home, the men fish while the women roast [252] the fish on the spot (mokĩ é), where it is consumed. When nearby, [192] they carry everything to the village, where they share the yield with those who remained behind.

The collective fishing expeditions of the Mbüá of Xapecó last for many months.

421 In spite of the little importance of the economic preoccupations in the tribal culture, one sees quite a keen sense of private property. The researcher trying to acquire for the ethnographic collection some object -- a basket, for example -- that belongs to a child will not obtain it without the latter's consent, even though he perhaps offers by /56/ way of remuneration an implement greatly coveted by the parents. The money received in the street [262] by the children on the occasion of visits to São Paulo or another [192] city belongs to them themselves; they spend it, in general, on [432] wheat bread (mbodjapé), one of their preferred tidbits. On the other hand, in the matter of food for immediate consumption, the [114] individual makes his interest prevail. In São Paulo I once offered a basket with a few dozen bananas to a group of Mbüá; all advanced on the fruit at once, each one snatching what he could and immediately concealing the product of his agility under the blankets, traveling bags, or coats scattered around in the corners [224] of the hut where the Indians were staying. This attitude noticeably contrasts with the fairness that these same Mbüá maintain when [178] they distribute the yield from hunting (even individual hunting) in their own village. One sees that in the latter case the ancient institution of the tribal economy is still alive.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

consuming them without the more strenuous labor of axe work. In most new clearings, a second burning was necessary, and in such cases, the unburned slash was nearly always piled up about fallen trunks or live trees.[a] Planting was done in the spring in the ash-covered, burnt-over ground in the midst of charred and partially consumed trunks and stumps. These impediments caused relatively little difficulty as far as Cayuá planting was concerned because the principal planting implements were a digging stick (*sarakwé*) and possibly some sort of pre-iron, hoe-like implement. Such tools worked well enough in the irregular, trunk-strewn ground, but the crude and untended appearance of the aboriginal *kokwé* (agricultural clearing) caused unfavorable comment both from the Jesuits and from Dr. Rengger, accustomed alike to the smooth, unobstructed European fields where the plow had to pass.

A point of some difficulty to affirm, for lack of actual information on the Cayuá, concerns the sexual division of labor in agriculture. That the men did the heavy work of cutting and burning the fields seems certain enough, and this is also the case today. But today men have a considerable role in the rest of agriculture as well, including the planting, tending, and harvesting of a number of crops. The women are also important at present, and, indeed, apparently indispensable in farming certain crops, notably corn. However, the work of agriculture after the burning of the fields is now by no means exclusive with women. But in early accounts of Coastal Tupi, agriculture, except for cutting and burning, was largely and unmistakably a female province; the man's time was much occupied in hunting and fishing. Besides the comparative data from Tupi-Guarani peoples, we have the fact that a post-Conquest change in the sexual division of labor in agriculture is likely in the Cayuá instance. We have some grounds, therefore, in spite of the lack of documents, in stating that the aboriginal Cayuá had female agriculture.

Somewhat less important to the aboriginal Cayuá than agriculture (but quite important notwithstanding) were hunting and gathering. Agriculture was a seasonal, primarily female, activity, which left the men free for extensive hunting and fishing. Among game animals that the Cayuá esteemed were deer, *paca*, *caitetu* (sometimes *taitetu*), *tapir* or *anta*, *capivara*, and armadilloes. The *paca* is a rodent, the *caitetu* is a wild pig that roams the forests in bands and is considered dangerous quarry because of the numbers in which they usually move, and the *anta* is an ungulate and American relative of the hippopotamus and horse. The armadillo or *tatú* is much smaller quarry and is usually dug out of his burrow. The meat is considered good by the Cayuá, and the shells have long been used for vessels and containers. Several wild varieties of the cat family are also found locally, but the Cayuá did not apparently share the

[a] This process is today known in Brazil as *coivara*, both the name and the practice having been taken over from the aborigines, according to some.

3: Watson E-4,5 (1943) 1952 SM4 Guarani SM4

enthusiasm for this type of flesh attributed to the Abipones by Dobrizhoffer.[43] The *coatí* (Tupi word), a little animal related to the raccoon, is killed for food, and monkeys may also have been used. Alligators were probably eaten, although only certain portions such as the tail. Rengger gives us the impression that the aboriginal Cayuá lived at least half from hunting,[45] and this estimate may not be greatly excessive.

A number of birds were killed for food, and toucans, parrots, and parroqueets served both for food and feathers. Parroqueets and sometimes parrots were tamed for pets, and such birds are also today to be found walking about the roofs of some half a dozen houses at Taquapiri. The ostrich-like emu which runs in the open *campo* of the Cayuá region was probably eaten formerly, as it is today, but it is not known whether the eggs were also eaten. Small birds of this species were captured and kept about the settlement to be eaten or for their eggs (?), though it is a moot question whether this keeping of semi-domesticated emu antedates the introduction of the European practice of keeping chickens. Certain other birds were eaten such as the *tapena* (*gavião-tesoura*), but the flesh of others was restricted to the older people, those who had grandchildren; it would make a younger person lazy or cause other undesirable effects. The owl was one such bird.[44]

The bow and arrow was one of the most important weapons of the chase, being employed against most larger and faster game, but special, blunt arrows for birds were also made. Clubs appear to have been used in certain kinds of hunting as well as in war and in personal disputes; in hunting, clubs were used principally against smaller and slower animals. The pellet bow is said not to be aboriginal, but in any case, was early used against birds which perch within its range.

In the matter of fishing, the Cayuá do not seem to have made the use of this source of food that the coastal Tupi did. Métraux comments that "the Cainguá are the only Tupi-Guarani who are so poor in fishing methods; not only do they not possess nets, but they do not shoot fish with the bow and arrow like the majority of Indians of South America."[46] While our information may suffer from insufficient or faulty reporting, it seems likely that Métraux's general impression is correct—at least judging from the present. It would be less safe to say, however, that the Cayuá have always been so poor in fishing practices. At the time of the European entry the Cayuá are practically unreported and may have been better off than now in respect of fishing. In the second place, the retreat of the Cayuá to their present territory, as they sought to avoid contact with the Europeans, confined some of them to an area where fishing is often impracticable because of the lack of fish. Ambrosetti, for ex-

[43] Dobrizhoffer, 1822, pp. 253 ff.
[44] Ambrosetti, 1894, p. 107.
[45] Rengger, 1835, pp. 125–126.
[46] Métraux, 1928, p. 92.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

*174 226 ample, speaking of Cayuá farther down the Paraná than Taquapiri, does not give the impression that we would expect from Métraux's statement about the lack of Cayuá fishing.[46]

In any event, the Cayuá practiced fishing at least to a limited extent and knew the techniques of angling, fish poisoning, weir building, and stream damming. It must remain a question for the time being whether the present poverty of fishing techniques is recent or a matter of long standing. It is *174 likely that fishing was somewhat more important in bygone days.

224 The trapping of animals, while classifiable as a special form of hunting, was in a certain sense a meeting ground of agricultural and hunting practices. Traps, snares, and deadfalls had to be set to keep animal depredations in the planted crops at a minimum. At the same time, of course, the supply of meat *174 acquired in this manner contributed to the Cayuá larder.

222 Gathering practices, largely the responsibility of the women, played a [462] fairly important secondary part in the food economy of the Cayuá. This was primarily due to the fact that a considerable number of fructiferous trees and bushes grow in the region.[47] Among the wild plants widely used for food by the Cayuá are to be found *gwaimbé* (*Philodendron bipinnatifidum*), *jaboticába* (*Myrciaria cauliflora*), *vacuá* (*Pandanus utilis*, Bory), *gwaBirôBa* (*Mirtacea* [252] family), *gwajuBira* (?), and *aralicá* (*Rollinia exalbida*). The use of the heart [171] of the *pindó* palm (*Cocos romanzoffiana*) to make flour as well as shoots for roasting is reported; it is also known to have been a characteristic food practice of some of the non-Guarani-speaking peoples, such as the Mbayá-Caduveo.

[273] One modern informant insisted that formerly certain wild fruits were used, at the proper times of the year, to make the all-important *cāuī'* or *chicha* beer. (Corn, potatoes, or manioc are traditional ingredients.)

The women also gathered yearly a certain large ant, *ysá*, when it left its house about October. Standing near the mouth of the ant houses with their feet in small, prepared water holes so as not to be bitten, they swept large [252] quantities of the insects into vessels. These would later be roasted, principally for the white fat or oil which was stored in the tail segment of each ant and which was highly esteemed for food. Certain grubs, including one called *tambú* (*Calandra palmarum*) were also eaten.

Another aspect of gathering practices was connected with the several varieties of melliferous bees which live in the Cayuá habitat. Locating hives and the systematic gathering of honey were fairly well developed practices [171] among the aboriginal Cayuá. This trait they doubtless shared with the neighboring Guarani as well as with the little known Guayaki of Paraguay, people who have been characterized as having "a honey culture." There was a

[46] Ambrosetti, 1894, pp. 701, 727 ff.

[137] [47] Apparently an even larger number of such fruit-bearing trees, including many of the same varieties, grew in the environment of the more northerly dwelling Tupi-Guarani.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

*174 596 342 tioned off or given any real means of privacy, to judge from the absence of comment to this point in the literature and the lack of any present tradition. Some *tapúi* apparently housed so many occupants that to uninitiated European observers such as Rengger[48] the dwelling groups were taken to be whole *174 tribes, all the members of which were living under a single roof.

361 342 Adding to the impression of the *tapúi* group as an autonomous unit, sometimes mistaken for a "tribe," was the fact that each *tapúi* (perhaps group of *tapúi*) stood quite alone in the forest at some distance from the nearest neighboring *tapúi*. How great the distance may have been within a single recognized community of *tapúi*-extended families is not known, but it is quite clear that often, if not always, no other *tapúi* could be seen from the location of a given dwelling. This condition seems to have been associated in some way with the importance of hunting and gathering in a forest area and also with the Cayuá penchant for concealment of their dwellings and the trails to them. [178] (The latter inclination is still today manifest in subtle ways.) Apparently one came suddenly and with no forewarning upon a *tapúi*, its clearing opening abruptly out of the dense surrounding forest. Such isolation could only stress the basic importance and discreteness of the extended family dwelling unit *174 among the Cayuá, and its relative autonomy.

596 433 241 Economically also, the basic unity and autonomy of the extended family was given expression. The *tapúi* group was the fundamental production-consumption unit of the Cayuá. Its *kokwé*, or agricultural clearing, was farmed jointly by the extended family members and the produce jointly distributed. There are inferences that elementary families did not possess individual clearings; it is not impossible, however, that certain sections of the *tapúi's kokwé* plantation were separately assigned to the several component *174 elementary families. It is not certain that hunting activity was joint, although 596 certain types of fishing may have been, notably that in which the poisonous [244] *timbó* plant was employed. In any case, the products of hunting and fishing [226] were sometimes (perhaps regularly) jointly distributed in a manner suggesting [273] the extended family as the basic group. In the preparation of *cāwī'* and the giving of a drinking fest in which large quantities of this beverage were consumed, the *tapúi* group was the smallest effective unit of the community. [462] The women of the extended family were the ones to prepare the drink and the common (?) stores of the *tapúi* furnished the ingredients of corn, potatoes, or manioc.

*174 582 The aboriginal relation of the extended family grouping to kinship suggests a controversial point. The Cayuá may have had a somewhat unusual type of marital right or presumptive marriage of mother's brother with sister's daughter (maternal uncle to niece). Wagley and Galvão state that they failed

[48] Rengger, 1835, pp. 120, 130–131.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

*177 are consistent to a certain degree with their contention. They say that the
243 gods do not approve when large quantities of flint corn are planted and smaller
[173] quantities of the flour type, which is a divine gift. In spite of going this far, however, it is quite obvious that Cayuá now do sometimes plant more *tupi'* than *monoti'*, intending the greater harvest largely for sale. Cutler says, "The flour types appear to be the older form."[126] It is possible, therefore, that the Cayuá have grafted onto some aboriginal distinction between an older and supernaturally sanctioned flour corn (*monoti'*) and a more recent flint type (*tupi'*) the modern rationalization that the latter is white-introduced. The present trading association of hard corn may also have had some influence. In any event, it is clear that some few plants have been introduced to Cayuá agriculture by acculturation and that the aboriginal production ratios between one crop and another have been somewhat changed as a result of white influence.

*177 Hunting and fishing have changed less than agriculture but a few acculturational features are to be noted. In fishing, white-introduced metal hooks
*178 are used for angling. Machetes are now often used when hunting with dogs;
224 clubs have presumably given way to machetes in this and have disappeared
• 226 altogether. Firearms are known, and a very few Cayuá possess them.[127] The bow and arrow is the missile weapon used by the largest number, and it does not seem to have suffered basically, either as to variety of arrow-points or as to the knowledge of its use, from acculturational change.

*177 Technologically, gathering has been largely unaffected and also probably
*178 has been little influenced by acculturational factors as to its importance in the
222 total economy. In honey-gathering the machete and axe have provided some
412 advantage over any conceivable aboriginal method. These metal implements
415 are used to cut open the trees or stumps where the wild bees make their nests. Kerosene cans and *aguardente* (Brazilian alcoholic drink made of cane juice) bottles are now also found convenient for catching and storing the honey.

224 Although apparently little affected by acculturation as to technology, the
226 non-agricultural forms of food production are now completely subsidiary. In some respects hunting and fishing theoretically may now even be dispensable.
433 Practically every able-bodied Cayuá man (and woman, within the limits of her status) is an agriculturist. But many men do very little hunting or fishing. Even the motives for these lesser activities are now somewhat special and include the desire for variation of activity and for relief from the largely vege-

[126] *Ibid.*

[411] [127] In 1943 only one person at Taquapiri had a firearm usable for hunting, an ancient Belgian
[648] shotgun, for which he sometimes bought powder and shot and loaded his own shells. A story was current among the Cayuá at that time that "the Government" had issued an order for all firearms to be taken from the Indians. Apparently certain local whites had "cooperated" in this, taking the arms for themselves.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

table (agricultural) diet. Agriculture takes so much time that hunting has become literally somewhat of a "weekend" activity for most Cayuá men.[128]

Most of the aboriginal game animals are still taken, and southern Mato Grosso can certainly still be described as quite "wild," but game is no longer to be had in such numbers as formerly. Cayuá fishing is even less practicable than hunting, though this is not entirely a recent development. We have already seen that fishing was for a long time somewhat less important among the Cayuá than among some of the better known Tupi-Guarani. Nevertheless, it appears that modern fishing has continued to decline in importance, even from its former limited role. Fishing with poison has been given up by the Cayuá of Taquapiri, although the tradition of this practice is still alive, and even younger men said they could identify the proper poisonous plant. During our stay only a handful of men (or families) went fishing, in contrast to a majority of men who went hunting at least several times.

Many Cayuá still regularly spend some time in hunting and fishing, although the number is not as large as that of *kokwé* owners. Nor is the amount of time spent in hunting and fishing, in the majority of cases, usually more than a small fraction of that spent in agriculture. There are only one or two men in the entire village who spend more time—or even as much—in hunting and fishing than in farming. Trapping and snaring, related both to hunting and agriculture, in the sense of keeping crop pests under control, are carried on today on the whole, probably, little diminished. It may be, however, that the more elaborate and time-consuming kinds of trapping, such as making deadfalls and pitfalls for large animals, have decreased. Trapping activities continue to provide occasional meat, nevertheless, and even the Cayuá who no longer hunts is likely to keep a few traps and snares.

In fine, there can be little doubt that agriculture is relatively more important in the economy of the modern Cayuá than it was at the time of their forefathers. This is evident in at least four ways: (1) the total amount of area under cultivation; (2) the amount of work time spent in agriculture, and consequently the greater care given the *kokwé* than aboriginally; (3) the amount of total goods now produced in agriculture, both directly and indirectly (through trade); and, (4) negatively, the inroads which have been made in the former importance of hunting and fishing, and possibly gathering.

Division of Labor

The most notable feature about the present sex division of labor is the

[128] The Cayuá at Taquapiri are conscious of the Christian week and calendar and have a tendency to arrange their activities according to such a schedule. For instance, drinking fests with their attendant dancing always tend to be on Saturday nights—except for the more limited spontaneous fests. Although the Cayuá are not by any means practicing Christians, we were surprised one day, finding the men at home and not in their fields, to be told that it was a *"dia santo."*

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

It is not clear whether any differences exist between the present and the past with respect to individual vs. joint labor in hunting and fishing. Fishing and hunting today are almost exclusively individual affairs, and at most a man will take his wife and children along on an overnight fishing trip; but this may also have been common practice formerly. In one respect alone does it appear certain that some form of joint labor prevailed with regard to aboriginal fishing; this is in the use of fish damming methods and fish poison, clearly activities requiring the cooperative labor of several individuals. The only kind of fishing referred to at Taquapiri in 1943, however, was angling, an individual occupation. The abandonment of former joint methods of fishing is presumably related somehow to the loss or weakening of other forms of joint labor. If joint fishing parties were aboriginally organized within extended families, which seems likely, a relation may well exist between the mutual decrease and abandonment of these social forms.

A certain amount of specialization, which does not appear to have existed formerly, is now present in Cayuá economy. This takes at least two different forms: craft specialization and work alternatives. Work alternatives are in the sense of whether the individual works primarily for himself or for others. Craft specialization is the less important of the two as regards the amount and importance of goods thus produced. Work alternatives are mainly concerned with the *changa*[139] relations existing between a majority of Cayuá men and local Brazilian settlers. The settlers employ these men to work—usually in their planted clearings (*roças*), employment technologically almost identical to the agriculture Cayuá know at home.

Individual craft specialization exists in both men's and women's crafts. It seems to occur in those aboriginal industries, in most cases, which have suffered a decline but whose products are still in some demand by the Cayuá, or sometimes by Neo-Brazilians as well. An example of female craft specialization today is the manufacture of hammocks, which are still widely used by the Cayuá and which also find an occasional buyer among the whites. A number of the younger women, although not all, are unable to make hammocks, or for some reason do not "wish" to do so. Hence they must obtain hammocks for their own use from a woman who can make them and who will do so for barter or for a price—infrequently the latter. The weaving of men's belts is another, although relatively unimportant, specialization among female crafts. Pottery making might also be termed in a sense a specialization, since only a few women practice it; but here is a clearcut instance of an industry that is dying because there is practically no demand for its products. To what extent the same may be true of other specialized industries, except that demand has

[139] "*Changa*" is a Brazilian regional expression, apparently with a Rio Grande do Sul provenience. In southern Mato Grosso it is widely used by the Cayuá and seems to have the meaning merely of working for hire for another—in their case almost always a Neo-Brazilian. The verb is *changar* or *changuear*.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

128 causes are largely to be recognized in the effects to which they are related and
*177 which are their expression and will thus become clear in the discussion of their
182 respective acculturational effects. Other than convenience or chance, there is no special reason for the order in which the various factors have been listed in each class. (We shall include in parentheses, each time we first mention any factor, the numeral-letter key to its location in the chart.)

PRIMARY EFFECTS OF ACCULTURATION

*177 II. A. a. "Agriculture becomes more important in the total economy of the
182 Cayuá." Several factors have contributed to this effect, and the relationship
241 is quite plain in most cases between these factors and the trend toward a larger scale agriculture. The guarantee of freedom from attack and from the need of recourse to arms (I. a.) permitted the Cayuá to devote more time to other pursuits and particularly to depend more heavily upon agriculture. A fixed source of food, of course, is a liability when retreat and destruction are in prospect. The modern Cayuá could develop and maintain their *kokwé* on a scale which would have been impossible under the necessity of being ready to abandon them hurriedly. No longer did they have to conceal them by making clearings small and inconspicuous in the forest so as to escape hostile notice.

[412] A different influence, but with much the same result, is (I. b.) the introduction of metal implements such as the machete, hoe, and axe which facilitated agriculture technologically. These implements enabled the same amount of work as before to be done better in less time—and probably with a smaller expenditure of total effort. Thus, so to speak, there was, in comparison with the past, a "surplus" of time to be used in other activities or in more extensive
[224] agriculture. Since the most important other activities of men, hunting and
[226] fishing, were concurrently becoming less practicable, or at any rate demanding less time (as we shall see in II. A. b. below), there would obviously be a tendency to turn to the increased agricultural production of food. The heightened efficiency of the agricultural technology in turn made such a prospect less arduous.

*177 The territorial restriction of the Cayuá and their final location upon rela-
182 tively small reservations (I. c.), of course, favored agriculture; it became
241 necessary to curtail economic activities, such as hunting and fishing, that de-
621 pended upon greater mobility and a wider territory of exploitation. Agriculture remained practically the only possible direction in which Cayuá could compensate for their consequent economic losses. In a sense, then, we see here the reverse of the presumably usual relation between sedentarism and intensive agriculture. Generally sedentarism comes about "naturally," one supposes, but in the Cayuá case it was increased and enforced politically from outside. Thus, instead of resulting from intensive agriculture, the fixation of territory tended rather to bring that intensification about.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

time in the history of Cayuá acquaintance with whites, white tools, and white economy, men began using the metal implements now so important in their own farming; moreover, the *changa* included agricultural work other than only felling trees and clearing, the aboriginal male agricultural tasks.[180] It is suggested, therefore, that the *changa* may have been influential in habituating Cayuá men to agricultural operations associated with the white introduced metal tools.

II. B. c. "Division of labor: individual work (vs. joint and cooperative labor) becomes relatively more important in a number of basic activities, notably agriculture and house-building." The most important factor in making feasible the present largely individual work is (II. A. c.) the greater individual efficiency in agriculture of the modern Cayuá. The significance of this factor is emphasized by (II. A. a.) the primary importance of modern agriculture. But the mere possibility of a more individual manner of working does not guarantee its realization. Individuals, for example, could become more efficient, thanks to (I. b.) better implements with which to operate, but they might well continue to work jointly or cooperatively as much as ever. Since Cayuá joint or cooperative work has not continued on the same scale as aboriginally, however, it remains to search for reasons beyond the permissive technological one which would account for the change to more individual forms of labor.

(II. B. a.), the assumption by men of productive activities in agriculture which were new to them suggests the possibility of a corresponding new conception of individual work in these activities. Joint or cooperative usages which applied in aboriginal male work, that is, would not necessarily be carried over into such new activities as farming. Admittedly there would be some tendency for former practices to reappear, *mutatis mutandis*. However, if other factors weighed in favor of individual work, a carry-over of older joint work usages would be less likely than if the sexual division of labor remained unaltered.

We cannot, of course, be entirely sure to what extent aboriginal male activities actually were individual. Joint or cooperative male work probably found expression in aboriginal fishing, particularly where fish poisoning or damming was used as a technique. But inasmuch as the importance of Cayuá fishing is in doubt, such joint fishing usages may have had only a limited influence. In aboriginal agriculture there was also a certain cooperativeness in

[180] At this point, the chronological question becomes significant: when did Cayuá male labor for whites begin in relation to (a) the beginning of larger scale Cayuá agriculture, and (b) the beginning of increased Cayuá male participation in agricultural activities? There is some reason to believe that Cayuá men were already working occasionally for creole Paraguayans while Cayuá agriculture was still fairly close to its aboriginal condition. Rengger (1835, pp. 109–111 *et passim*.) mentions or implies both circumstances as being contemporary; but if it was not true that the Cayuá of that time worked agriculturally for the creoles, the fact still remains that metal implements, at least, probably were used by the men, as in the securing of *maíz*.

5: Métraux E-4 (no date) 1948 SM4 Guarani SM4

eat in times of want. They also gather the fruits of other palms, such as *Acrocomia mokayayba, A. totai, Cocos yatay, Attalea,* and of several trees and other plants, including *Carica, Annona,* araza, ihwa-imbé (*Philodendron bipinnatifidum*), mburucudyà (*Passiflora edulis*), wild oranges, etc. 222

The *Caingud* relish honey, which is for them an important food resource. The *Apapocuva* have taken the first steps toward domesticating bees. When they gather honey, they spare several combs so that the bees can return to the same place another time. They also acclimatize swarms of bees to their villages. The fat of butterfly larvae (Phalaenidae and Morphidae) and of beetles (tambu, *Calandra palmarum*[1]) is part of *Caingud* diet. They fell some trees for the purpose of developing the larvae in the decayed wood. [231] [262] [231]

Hunting.—Because the *Caingud* prefer meat to any other food, their main concern when they move their village is to choose an area with abundant game. They make great use of traps. These are of two types: dead falls, which crush the game; and spring snares with automatic release, for birds and even for large quadrupeds, like tapir or deer. Traps and pitfalls are often located at places where animals enter fenced fields. The *Caingud* capture parrots in a noose at the end of a pole. They have dogs trained for hunting, especially for jaguars. 224 [262] [231]

Lower jaws of jaguars are kept as trophies suspended in front of huts. [825]

Fishing.—Fishing is of secondary importance. It is reported that the ancient *Guarani* angled with wooden hooks; those living on the Coast used tucumã fiber nets. Although modern *Guarani* are well provided with iron hooks, they still shoot fish with bows and arrows, force them into baskets placed in the openings of stone dams, or poison them in calm water with the juice of a Sapindaceae (Vogt, 1904, p. 204). 226 178 [433]

Domesticated animals.—The only domesticated animal in pre-Columbian times was the Muscovy duck. Today they have dogs, chickens, and many other European farm animals. 231 178

Cooking.—The food of the rural population of Paraguay is largely a heritage of the ancient *Guarani*. The most popular dishes prepared with maize are chipas—cakes made of maize flour—mbai puy, maize mush, abati pororo, boiled maize, and guaimi atucupé—maize dough wrapped in leaves and cooked under the ashes. The *Caingud* have about 12 recipes for preparing maize. Maize flour baked in a green bamboo joint is a *Caingud* specialty. 262 252 [178]

Manioc tubers are generally boiled or roasted. They are also sliced, dried in the sun, and pounded into a flour with which the *Caingud* make wafers. Flour for wafers is also prepared by the *Caingud* with tubers soaked in water or mud for 8 days, and then dried in the sun and ground. Manioc starch is also extracted by grating the tubers—today on a tin grater—and washing the mass in water. 252 [178]

[1] *Rhynchophorus* sp., according to Strelnikow.

6: Watson E-4,5 (1943) 1945 SM4 Guarani SM4
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the village of Taquapiry, a relatively closely grouped settlement of Cayuá, number about 175, including men, women, and children. To a certain extent, Taquapiry was atypical of what we had observed for some Cayuá elsewhere in that it was a group of houses built in relative proximity one to another, without much of the frequently encountered scattering of small kin groups in the forest. There were, however, some evidences of the tendency to live apart, representing, possibly, some of the more "traditionally minded" individuals of the group. Present-day Cayuá are sedentary and live in rough houses, many of which, in Taquapiry, house only elementary family groups.

The present Cayuá are primarily agricultural. Almost every adult male in the village has a *roça*,[8] or field, for planting, which is cut out of the forest by what can be generally described as slash-and-burn methods. A man need not be married before he possess a *roça*, and even some women carry on with their husband's *roça* after being widowed or divorced. But, generally speaking, *roças* are today associated with elementary families, for whom they serve as the principal means of obtaining a living.

A certain number of Cayuá still spend some time in hunting and fishing, although the number would not be as large as that of *roça* owners. Nor is the amount of time spent in hunting and fishing, in the majority of cases, usually more than a small fraction of that spent in agriculture. Hunting and fishing require considerable time, at least a day for even a small-scale hunt and two days and often more for fishing. The game resources of the immediate neighborhood of Taquapiry are not extensive, and no fish-bearing streams are to be found less than a half-day's distance from the *aldeia*. There are probably not more than one or two men in the village who spend more time in hunting and fishing than in agriculture.

Trapping and snaring, with the dual purpose of providing occasional meat and keeping agricultural pests under control, are engaged in to some extent by nearly all Cayuá males, whether or not they also hunt and fish. Trapping and snaring are somewhat distinct from "true" hunting and fishing in the Cayuá instance; they do not call for departure from regular agricultural activity. The provident

[8] A Brazilian word referring to the notably similar complex of agricultural traits among rural Brazilians.

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224
226 Cayuá sets traps and snares in and about his *roça* to catch beasts which are preying on the crops.

464 A type of economic activity now quite important in a good num-
648 ber of cases is that which the Cayuá call by the southern Brazilian colloquialism, *changuear* or *changar*, which means to hire oneself out to another for payment in money or in kind — in effect, a sort of peonage. This is the strongest point of economic contact of the Cayuá of Taquapiry with the neighboring whites, for many of whom the Indians work for several weeks or even months out of a year, making *roças* or in the production of *herva mate* (Ilex paraguayensis). (Mate is one of the most important and characteristic products of the region for the Brazilian inhabitants.) Peonage is somewhat seasonal and occasional for most of the Cayuá, although a few men manage to spend rather extended periods of time away from the village during many parts of the year. Although perhaps fewer individuals work for whites than hunt and fish, as a rule more time is spent in such service by those who work this way than is spent in hunting and fishing. A large number of individuals practically never serve as peons, however, and others do such work only very irregularly. Peon-
[465] age is probably the most direct and obvious way of getting those things for which the Cayuá have come to depend upon the whites, knives and machetes, cloth and thread, salt, soap, iron pots, cooking
439 grease, meat, hats, etc. There is very little demand for the products of the Indians themselves, other than for their mere labor, and in
648 such crude and unorganized markets as can be said to exist for the sale of Indian products the Cayuá almost inevitably come off second best at the hands of their white neighbors.

462 The most important parts of the woman's role in Cayuá economy, beyond her ubiquitous household tasks of cooking, cleaning, and tending children and chickens, are those related to agricultural activ-
[482] ities. Woman is the burden-bearer *par excellence* of the Cayuá. The female, through the use of a tumpline carrying basket, constitutes the transportation system of Cayuá economy. The Cayuá woman
[241] also assists at many important points in the actual production of food in the *roça*, and can, as far as the division of labor goes, in the case of a widow or a divorcée, do almost any work except the heaviest of agricultural labor. This latter situation is not very frequent, however, and merely serves to show the range of the female economic role

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Loss of Hunting and Fishing Facilities

224 178 [648] Mate exploitation in the area and the increasing presence of white settlers, among other things, probably led to a decrease in the supply of game, at least of the larger species. To some extent, the animals which play any important part in the diet of the Cayuá of today are those which do not interest the whites because they are not considered particularly desirable or fit for eating. In Taquapiry, • 226 at least, fishing also has probably suffered from increasing sedentarism. 178 The only fish afforded by the little streams in the immediate vicinity of this particular settlement are tiny, minnow-like creatures which, although they are occasionally eaten, could not play an important role in the diet. To reach bodies of water with sizable fish it is necessary to make at least a good half-day's foot journey or more. Even then, the results frequently do not seem to justify the effort of the journey. For the men of present-day Taquapiry, there are only two [224] alternatives. If one wishes to depend largely upon fish and game — as [241] one or two individuals do — he must almost do without a *roça* since it is necessary to spend a great deal of time in producing even moderate hunting and fishing results. Actually, the few men at Taquapiry who do spend an important part of their time hunting and fishing are able to do so only because they belong to production-consumption groups other members of which produce agricultural food. For the Cayuá man whose major activity is agriculture, fishing and hunting are largely limited to Saturdays and Sundays.

Although it is still known by tradition, *timbó*-fishing is not practiced today at Taquapiry.[24] No reason could be given by informants

[648] this reason have been diverted from their preferred routes, in the regions which were traversed by whites, and hence, as a result, from their use of the canoe.

[824] [24] The *timbó* formerly used by the Cayuá is said to be a large, jointed liana. The juice, of course, is poisonous to fish. Formerly, groups of men — for it was necessary to have at least several for the job — would cut the required *timbó* from the forest and go to the bank of a likely stream or back water. The *timbó* had to be pounded and beaten with sticks and rocks so that its juice would run down to the water, or the crushed trunks themselves put in the water to poison it. The catch by this method is believed by present-day Cayuá to have been large enough, generally, to satisfy the requirements of all those who participated in the party and among whom the fish taken were stated to have been divided.

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as to why this method of fishing was not still practiced. All admitted that the catch of fish was usually enough to be worthwhile, and, apart from the distance involved in reaching suitable streams, no important disadvantages could be ascribed to *timbó* fishing. It seems possible, however, that the disuse of this technique may be related to the growing emphasis on agriculture and the consequent relative loss of the hunting and gathering type of activity in Cayuá culture.

Forces Making for Intensified Agriculture

Attention has so far been directed toward certain forces presumably making for the decrease among the Cayuá of large-scale hunting and gathering activities. The forces mentioned have been only negative in the sense that they could not actually make for an increase in agricultural activity. We now come to two forces which have had a more positive effect, one of which is perhaps peculiar to the situation of the Cayuá, and the other of which must have been more or less characteristic of practically all indigenous groups who have come into contact with Europeans in Brazil. The first is the guarantee of relative security from attacks by hostile peoples; the second, an improved technology for agriculture made possible by metal tools received from the whites.

Even the scanty references to the Cayuá in the literature leave little doubt that among their traditional enemies, of whom they lived in constant fear, were the Mbaya or Guaycurú peoples to be found to the north and west of the Cayuá territory. Gay,[25] basing his statement on Azara, mentions that in 1746, this warlike people, the Mbaya, "made peace with the Spanish, established themselves in the Tropic of Capricorn, not far from the Rio Paraguay, and turned their arms against the Caaiguás (Cayuá)" as well as against other tribes and other white settlers. Rengger[26] states that at the time of his visit to a Cayuá group, presumably in northeastern Paraguay, a little over a century ago, he was told by the people that they feared to keep dogs or chickens because the barking and the crowing might betray the whereabouts of the group to the enemy, the Mbaya. Von

[25] Gay, Cônego João Pedro, *op. cit.*, fn. 12.
[26] *Op. cit.*, pp. 123-24.

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instrument. This large hand-knife, from 16 to 20 inches long, is commonly used even to "weed", that is, to cut down jungle vegetation to the level of the ground. No primitive tool similar to the *machete* appears to have existed, as probably did in the case of the metal hoe. Earlier hoes and axes are known, and the Cayuá still have vague traditions of bone and stone, respectively, having been used as materials for the implements of their ancestors or their more backward neighbors. In the older technology these less adequate proto-types doubtless were made to serve for many of the tasks that the machete performs at present. But without the machete today the Cayuá would be seriously handicaped in clearing land for farming.

Individualization

The agriculturalizing of Cayuá economy may also have led to the individualizing of it, in that it seems to have tended to decrease the ratio of joint or communal activity to individual work activity. One indication of this trend may be in the fact, already mentioned, that *timbó*-fishing has been abandoned, while ordinary fishing on the part of individuals has continued, at least on a limited scale. *Timbó*-fishing was, of course, carried on in groups because of the extent of the job to be performed. It is quite true that the abandonment of the *timbó* technique may have been due merely to the fact that progresively less attention was given by the Cayuá to hunting and fishing, but this need not disqualify it as an aspect of decreasing joint action. The point is that joint activity may have decreased in relation to individual activity because of different needs introduced by the change in economy; we certainly do not think that increased agriculture brought with it, *ipso facto*, a tendency toward individualism in thinking and behavior which made continued joint activity less and less agreable to the Cayuá. Under different conditions, for example, joint activity might have been increased with an increase in agriculture.

Another suggestion of the trend toward economic individualization is found in the description given by Rengger of a Cayuá *roça* of his day:[21] that a *roça* was cultivated by the members of a single household for whom it constituted their source of food, as far as agriculture

[21] *Op. cit.*, pp. 125-6.